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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/669,284 | 09/24/2003 | Mitsunori Sakama | 0553-0185.01 | 6594 |

7590

11/17/2005

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EXAMINER

MONDT, JOHANNES P

ART UNIT

PAPER NUMBER

3663

DATE MAILED: 11/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/669,284

Applicant(s)

SAKAMA ET AL.

Examiner

Johannes P. Mondt

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 41-71 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 41-71 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 09/584,617.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/05/05, 9/24/03.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/28/05 has been entered.

Information Disclosure Statement

The examiner has considered the items listed in the Information Disclosure Statement filed 10/05/2005. A signed copy of Form PTO-892 is herewith enclosed. Additionally enclosed is a signed copy of the Form PTO-892 for the Information Disclosure Statement filed 9/24/2003 because examiner notes a signature on page 7 for the reference to Konuma et al (5,594,569) was missing in the initially submitted signed copy thereof. Examiner also brings to the attention of Applicant that the status of the reference to Terada in the Information Disclosure Statement is unchanged as having noted but not being considered, because except for the title the Terada reference is entirely in Japanese while no explanation of relevance has been received from Applicant, with reference to 37 CFR 1.98(a)3(i).

Response to Amendment

Amendment filed 10/05/2005 After Final Rejection has been entered following aforementioned Request for Continued Examination. In said Amendment Applicant substantially amended claims 51-56, 60 and 65-71.

Comments on "Remarks" in said Amendment are included below under "Response to Arguments".

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. ***Claims 41-71*** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In particular, the newly added limitation on the concentration of oxygen, nitrogen and hydrogen "throughout the thickness of said hydrogenated silicon oxynitride film" in the claimed range is not found in the specification, whether in the text or drawings.
3. ***Claims 51-56, 60-61, 65-66 and 68- 71*** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims

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contain subject matter not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. In particular, with reference to lines 10-14 of claim 51, lines 10-14 of claim 54, lines 5-7 of claim 68, and lines 4-7 of claim 69, first and second base insulation films including comprising a hydrogenated silicon oxynitride film, hence including in particular hydrogen, have not both been disclosed in the original specification including the original claims: base insulation film 102 consists of first base insulation film 102a, which is a silicon oxynitride film and which has not been disclosed to include hydrogen, and a second base insulation film 102b which, being a hydrogenated silicon oxynitride film, does include hydrogen (see [0059] in the specification).

Response to Arguments

Applicant's arguments filed 10/05/2005 have been fully considered but they are not entirely persuasive.

On Remarks on Claim Rejections – 35 USC 112:

Applicant's position appears to be that the limitation "throughout the thickness of said hydrogenated silicon oxynitride film" in independent claims 41, 45, 48 and 54 is redundant as being understood by one of ordinary skills in the art (see Remarks, pages 13-14). However, if so, then there would not have been any need to substantially amend the claims by Amendment 4/14/2005 to include said limitation. Said limitation is not without substance because inherently the concentrations of atoms in a substance

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wherein a portion of the atoms of at least one kind have been substituted by atoms of another kind vary with position, being either 0% or 100% at the smallest, i.e., atomic, scale. Therefore, any statement on concentrations "throughout the thickness" should be substantiated with (1) a qualification on the amount of coarse graining that underlies the spatial scale at which the statement is made, and (2) experimental data substantiating the statement for said spatial scale. Applicant's disclosure neither contains said qualification nor said experimental data.

Therefore, the rejections of claims 41-70 under 35 USC 112, first paragraph, stand.

On Remarks on Claim Rejections – 35 USC 103:

Examiner accepts the argument on the less than complete obviousness for the H concentration as claimed (range between 0.1 – 3 atomic percentages): on energetic grounds there is no reason why the H concentration should be between 0.1 and 3 atomic % when the nitrogen concentration is between 0.1 and 6 atomic % as claimed. No prior art has been found to date over which the percentage of H can be rendered obvious.

For this reason no art rejections have been included in this office action.

On Remarks on Double Patenting:

Applicant has overcome the double patenting rejections of claims 51, 52, 53, 54, 55, 56, 70 and 71 by substantially amended claims 51, 54 and 68.

4. However, claims 51-56, 60- 61, 65-66 and 68-71, are rejected under 35 U.S.C. 112, first paragraph, for reasons of new matter:

In particular, with reference to lines 10-14 of claim 51, lines 10-14 of claim 54, and lines 5-7 of claim 68, first and second base insulation films including comprising a hydrogenated silicon oxynitride film, hence including in particular hydrogen, have not both been disclosed in the original specification including the original claims: base insulation film 102 consists of first base insulation film 102a, which is a silicon oxynitride film and which has not been disclosed to include hydrogen, and a second base insulation film 102b which, being a hydrogenated silicon oxynitride film, does include hydrogen (see [0059] in the specification).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Johannes P. Mondt whose telephone number is 571-272-1919. The examiner can normally be reached on 8:00 - 18:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack W. Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JPM
November 11, 2005

Patent Examiner:

A handwritten signature in black ink, appearing to read 'J. Mondt', with a stylized flourish at the end.

Johannes Mondt (Art Unit: 3663)